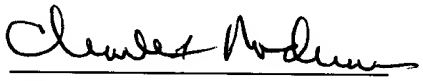
At page 1, below the title of the invention, please insert --This application is a continuation-in-part of application Serial No. 08/836,586 filed July 14, 1997 and now abandoned.--

REMARKS

The purpose of the Amendment is to recite the copendency of the parent application. A clean version of the language inserted on page 1 is enclosed, as well as a marked-up version of the language inserted on page 1.

Respectfully submitted,



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COMBINED USE OF NUCLEOSIDE ANALOGUES AND GENE TRANSFECTION FOR TISSUE IMAGING AND THERAPY

This application is a continuation-in-part of application Serial No. 08/836,586 filed July 14, 1997 and now abandoned.

TECHNICAL FIELD

This invention relates to diagnostic, radiotherapy and chemotherapy methods for use in conjunction with gene therapy techniques and to the use of certain compounds in performing these methods.

BACKGROUND ART

The utilization of gene therapy techniques to express foreign proteins within tissues and cell populations is providing insights into their function and plasticity. These techniques have been successfully used to investigate and treat a broad range of physiological processes. Progress in manipulating transgenic products in vivo and achieving cell-specific delivery of genetic material provides encouragement for enhancing the value of these techniques and their therapeutic potential for treating human and animal disorders.

One aspect of gene therapy involves the transfer of DNA to introduce a sensitivity gene into a target tissue. This can be achieved by direct injection of the DNA into the target tissue, delivery of DNA via liposomes, or via a viral vector that transfers the gene to the target tissue. In the latter case, the viral vector is genetically modified to include the new sensitivity gene in its genome. Such vectors are capable of "transducing" mammalian cells, resulting in expression of a protein which is encoded by the new gene. This expressed protein sensitizes the target tissue to a drug which is a substrate for the protein expressed. The enzymatic process induced by the drug leads to death of target tissue cells expressing the protein. Since proteins that are present in non-transduced cells have a very low affinity for the drug, systemic toxicity related to this mechanism is not observed.

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A1

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